

Supporting Information

# Highly Active Oxygen Evolution on Carbon Fiber Paper Coated with Atomic Layer-deposited Cobalt Oxide

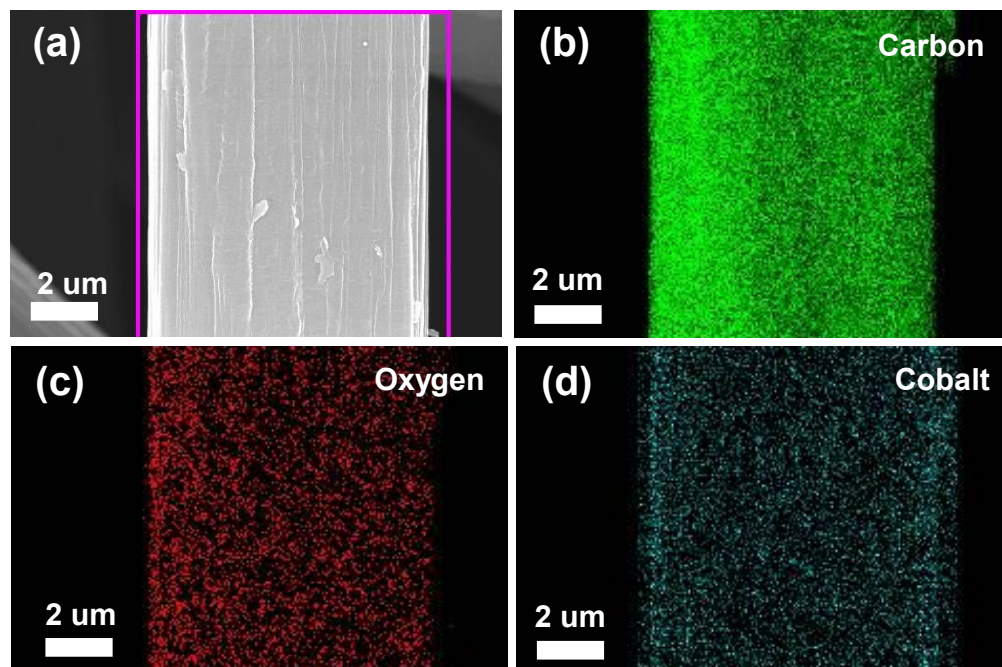
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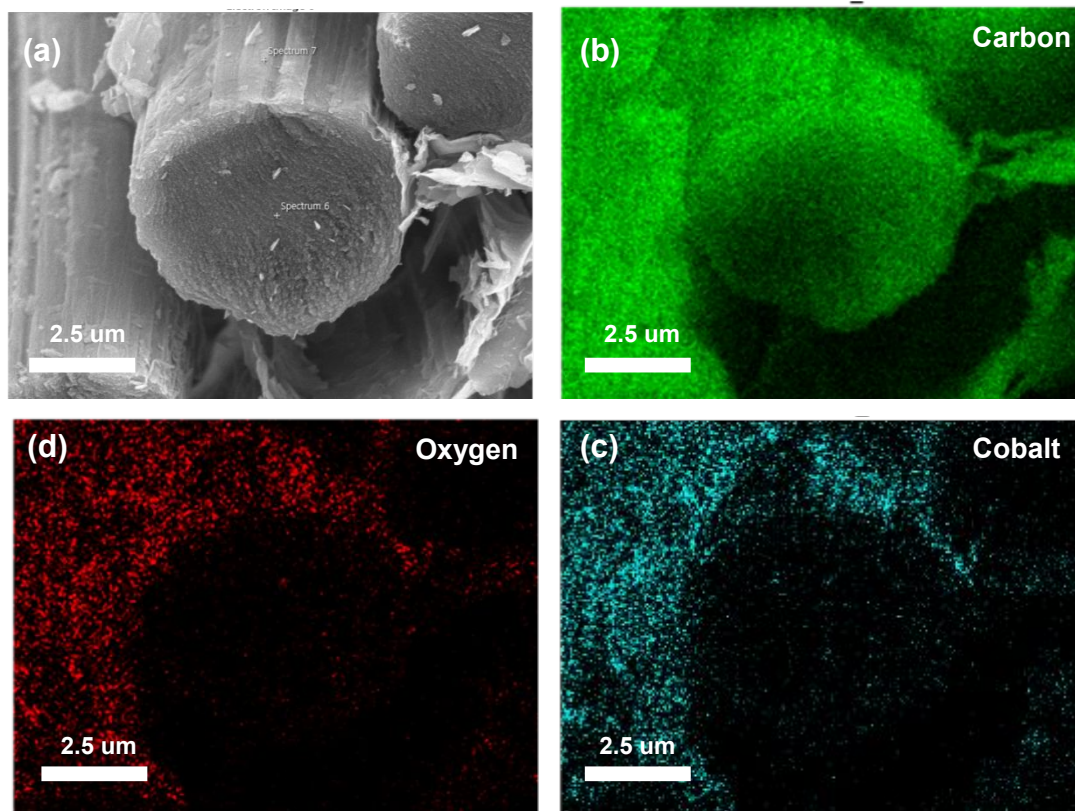
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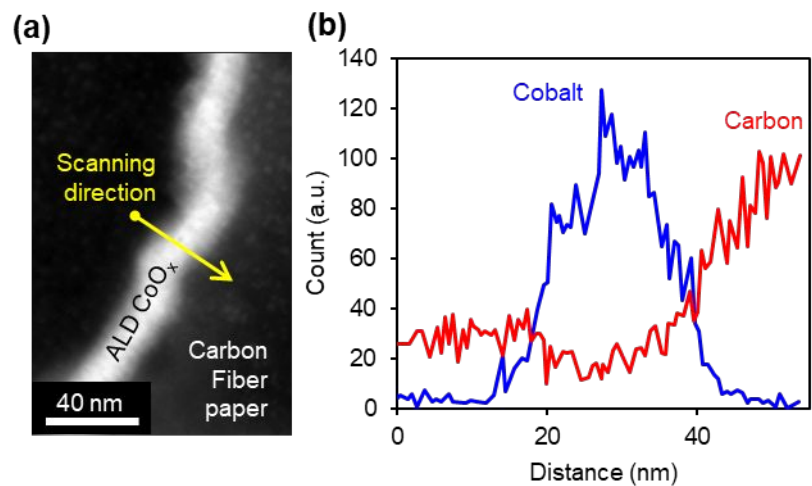
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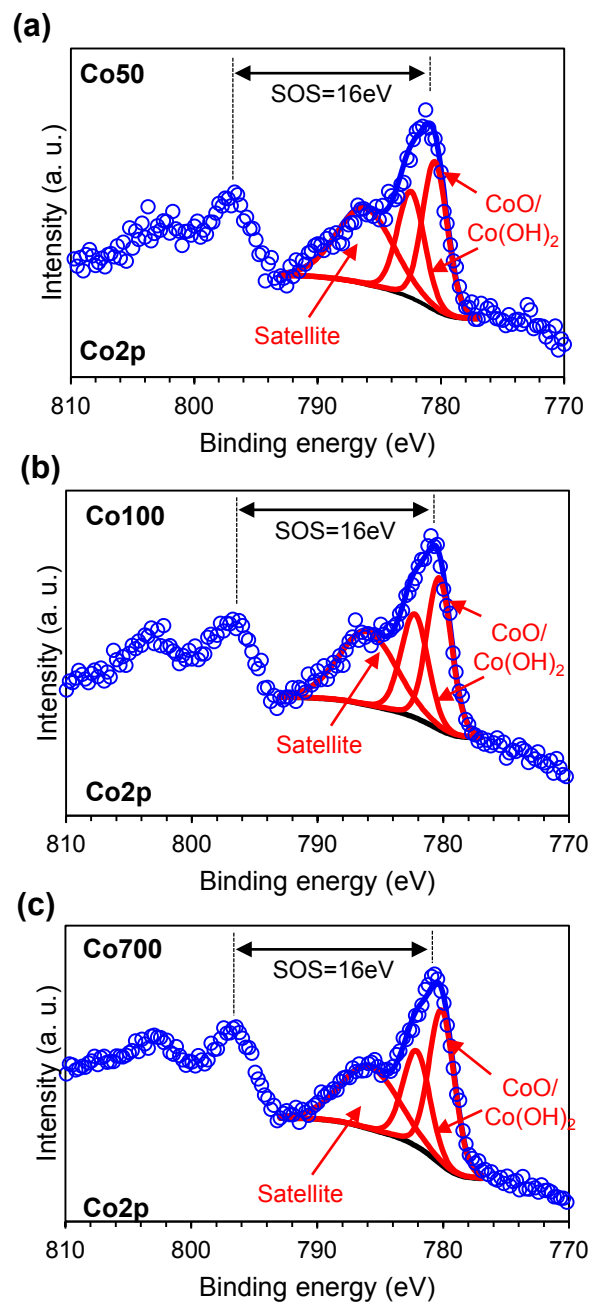
**Figure S1.** (a) SEM image of CP-Co350 sample. EDS composition maps of CP-Co350 showing (b) carbon, (c) oxygen and (d) cobalt contents.



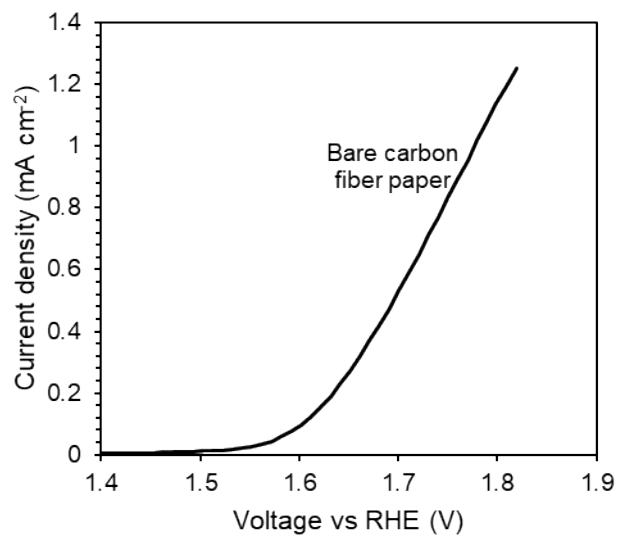
**Figure S2.** (a) Crosssectional SEM images of CP-Co350 sample. EDS composition maps of CP-Co350 showing (b) carbon, (c) oxygen and (d) cobalt contents.



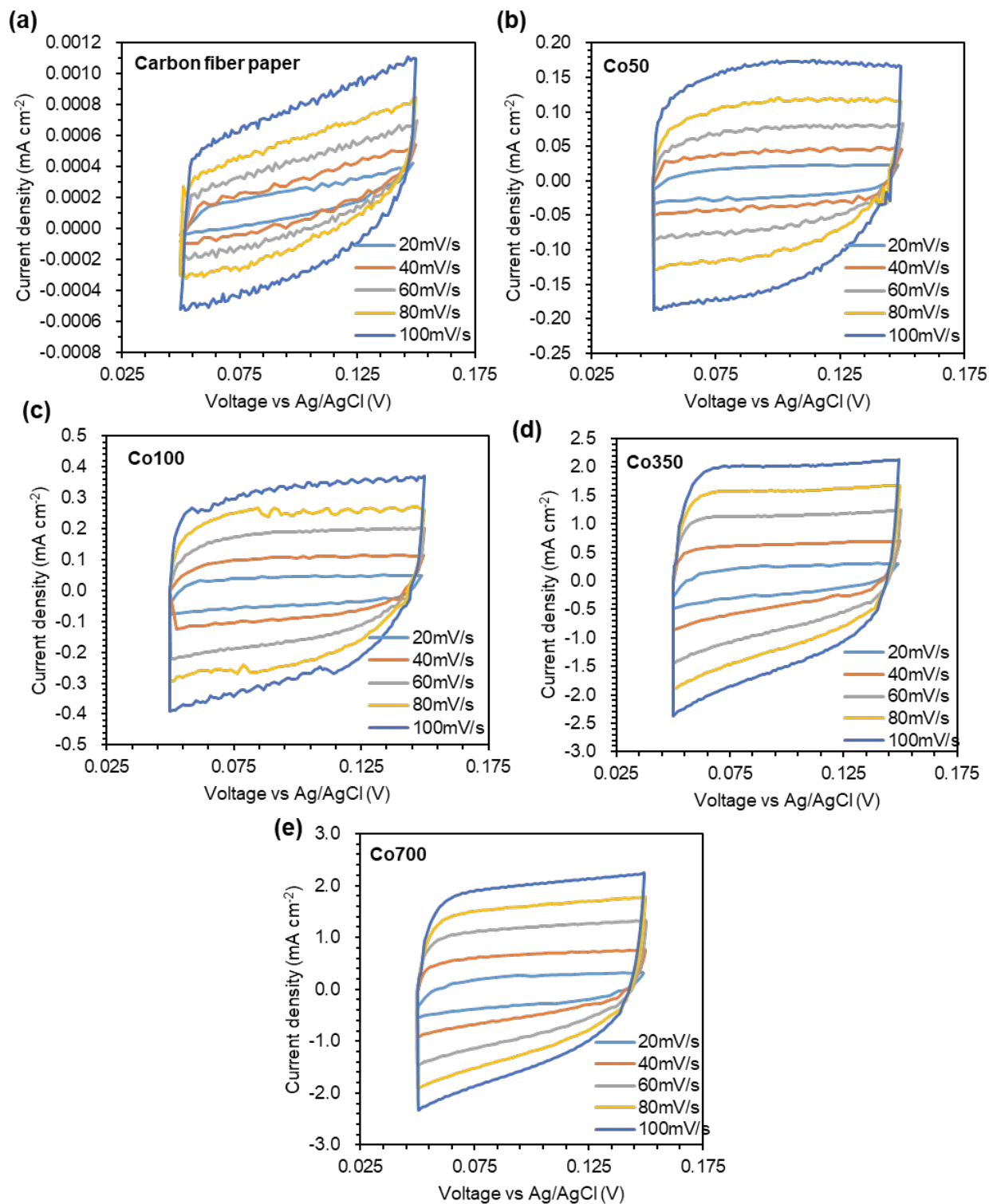
**Figure S3.** (a) Drift-corrected spectrum profile scanning position and (b) energy-dispersive spectroscopy (EDS) line profile of ALD-CoO<sub>x</sub> on carbon fiber paper (CP-Co350 sample).



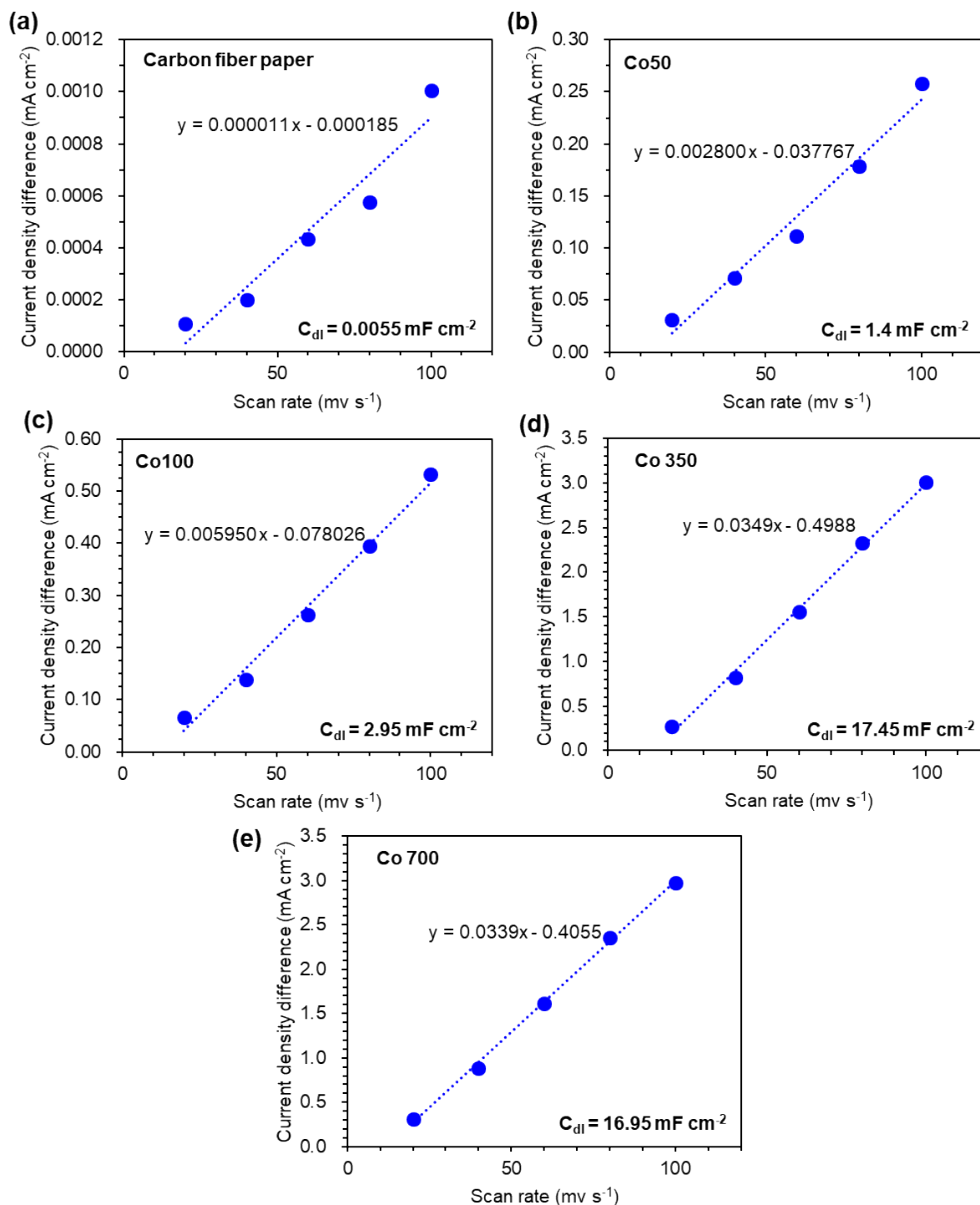
**Figure S4.** (a) High-resolution XPS Co 2p spectra of (a) CP-Co50, (b) CP-Co100, and (c) CP-Co700 electrodes.



**Figure S5.** IR-corrected linear sweep voltammetry curves of bare carbon fiber paper

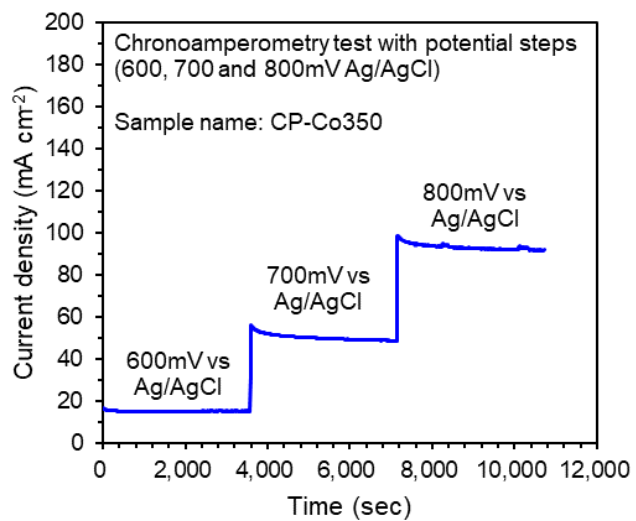


**Figure S6.** Cyclic voltammetry curves of (a) carbon fiber paper, (b) CP-Co50, (c) CP-Co100, (d) CP-Co350 and (e) CP-Co700 samples at various scan rates.



**Figure S7.** Corresponding linear fits of current density differences at 0.13 V vs. Ag/AgCl extracted from cyclic voltammetry (Fig. S6) of (a) carbon fiber paper, (b) CP-Co50, (c) CP-Co100, (d) CP-Co350 and (e) CP-Co700 samples.





**Figure S8.** The durability test using chronoamperometry with multiple potential steps (600, 700 and 800 mV vs Ag/AgCl).